

REMARKS/ARGUMENTS

Claims 1-37 are pending in the present application.

This Amendment is in response to the Office Action mailed April 30, 2008. In the Office Action, the Examiner objected to claim 15-17, allowed claims 15-24, and 34-37, rejected claims 1-4 and 25-33 under 35 U.S.C. §103(a). Applicant has amended claim 5. Reconsideration in light of the amendments and remarks made herein is respectfully requested.

Claim Objections

The Examiner objects to claims 15-17 due to minor informalities that the claim 15 is apparatus claim and dependent claims 16-17 are method claims. Applicant respectfully submits that claim 15 is a method claim and not an apparatus claim. For ease of reference, claim 15 has been reproduced below.

15. (Amended) In a charge pump having a plurality of pump stages connected in series, at least one of the pump stages including at least one node to be coupled to a corresponding clock signal via a capacitive device, the at least one node having a first voltage when the charge pump is in a first power state and a second voltage when the charge pump is in a second power state, a method of balancing a voltage requirement at the at least one node with stress limitation and die area of the capacitive device comprising:

using a single capacitor of a first type as the capacitive device between the at least one node and the corresponding clock signal if the first voltage and the second voltage do not exceed the stress limitation of the single capacitor of the first type;

if the second voltage exceeds the stress limitation of the single capacitor of the first type, using a single capacitor of a second type as the capacitive device between the at least one node and the corresponding clock signal if the first voltage and the second voltage do not exceed the stress limitation of the single capacitor of the second type, the single capacitor of the second type having greater stress limitation and greater die area than the single capacitor of the first type; and

if the second voltage exceeds the stress limitation of the single capacitor of the second type, using two capacitors of the first type connected in series as the capacitive device between the at least one node and the corresponding clock signal if the first voltage and the second voltage do not exceed the combined stress limitation of the two capacitors of the first type; and

if the first voltage exceeds the combined stress limitation of the two capacitors of the first type, setting the middle node between the two capacitors of

the first type to a third voltage level when the charge pump is in the first power state such that the voltage across each of the two capacitors does not exceed the stress limitation of the respective capacitor, the third voltage level at the middle node corresponds to the voltage level at the first node when the charge pump is placed in the first power state. *Emphasis Added.*

Accordingly, Applicant respectfully requests that the Examiner withdraw the objection to claims 15-17.

Rejection Under 35 U.S.C. § 103

In the Office Action, claims 1-14, and 25-33 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,084,789 issued to Van Lieshout ("Van Lieshout ") in view of with U.S. Patent No. 4,679,114 issued to Carpenter, Jr. ("Carpenter") and U.S. Patent No. 4,156,838 issued to Montague ("Montague"). Applicant respectfully traverses the rejection and submits that the Examiner has not met the burden of establishing a *prima facie* case of obviousness.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *MPEP §2143, p. 2100-126 to 2100-130 (8th Ed., Rev. 5, August 2006)*. Applicant respectfully submits that there is no suggestion or motivation to combine their teachings, and thus no *prima facie* case of obviousness has been established.

Van Lieshout, Carpenter, and Montague, taken alone or in any combination, do not disclose or render obvious, at least, "setting the voltage level of the middle node to a third voltage level when the integrated circuit is placed in the first power state such that the voltage level between the first and middle nodes does not exceed the breakdown voltage of the first capacitor and the voltage level between the middle and second nodes does not exceed the breakdown voltage of the second capacitor", as recited in independent claims 1, 10, and 25.

Van Lieshout merely discloses a switched capacitive voltage converter having two capacitive elements and five switching means and operating in one of three modes: up

conversion, down conversion, or buffering (Van Lieshout, col. 2, lines 6-11). Van Lieshout does not disclose setting the voltage level of the middle node to a third voltage level such that the voltage level between the first and middle nodes does not exceed the breakdown voltage of the first capacitor and the voltage level between the middle and second nodes does not exceed the breakdown voltage of the second capacitor, as admitted by the Examiner (Office Action, page 3).

The Examiner alleges that Carpenter in view of Montague disclose this element of the claims. Applicant respectfully disagree and submits that the Examiner cites to the language in claims 1 and 2 in Carpenter (col. 3, line 50 to col. 4, line 50) and claims 1 to 8 of Montague (col. 4, line 10-50) (Office Action, page 3). Applicants respectfully submit that it is impermissible to rely on the language in the claims as support for the teachings of Carpenter and Montague. The scope of a patent's claims determines what infringes a patent; it is no measure of what it discloses. In re Benno, 768 F2d 1340, 226 USPQ 683, 686 (Fed.Cir.1985). Thus, the rejection is impermissible.

In addition, Carpenter merely discloses a method and equipment for lightning protection through electric potential neutralization. The combination sensor and control unit 32 is provided to sense the tendency of the atmospheric conditions (Carpenter, col. 2, lines 55-63). The sensor 32A is connected across the last capacitor 38 of a plurality of in series connected capacitors 36 which act as a voltage divider (Carpenter, col. 2, lines 63-66). Upon the sensor 32A's response to the prevailing atmospheric conditions, it effects the setting of the controls 32B which activates the polarity reversing contactor 28 accordingly to maintain and to reverse, selectively, this position as necessitated by those ambient conditions (Carpenter, col. 2, lines 63-66). Sensing the electric charges and their polarities and preparing the setting of controls to maintain and reverse the polarities (Carpenter, col. 2, lines 56-60) is not the same as setting the voltage level of the middle node to a third voltage such that the voltage level between the first and middle nodes does not exceed the breakdown voltage of the first capacitor, as recited in the claims.

Furthermore, Montague merely discloses a breakdown device 16 being diodes 17 and resistor 18 (Montague, col. 2, lines 41-42). The breakdown device 16 can be any semiconductor device having a predetermined, predictable threshold conduction level for either polarity and can be connected in different arrangements or numbers to establish the desired threshold value (Montague, col. 2, lines 46-54). When a transient pulse occurs, breakdown device 16 attempts to

immediately conduct due to the changing noise potential but, before a significant change in conduction can occur, the charge on capacitor 15 is altered having the effect of "slowing down" the rise time or increasing the time required to reach the new threshold conduction level of the breakdown device (Montague, col. 2, lines 46-54). Thus, rather than setting the voltage level of the middle node to a third voltage such that the voltage level between the first and middle nodes *does not exceed the breakdown voltage of the first capacitor*, Montague discloses the charge on capacitor 15 causing the increase in time required to reach *the threshold conduction level of the breakdown device*. *Emphasis Added*. Since the breakdown device is not a capacitor and the threshold conduction level of a breakdown device is not equivalent to the breakdown voltage of a capacitor, Montague does not teach or suggest setting voltage levels or not exceeding the breakdown voltages of the capacitors.

Moreover, the Examiner failed to establish the factual inquires in the three-pronged test as required by the *Graham* factual inquires. There are significant differences between the cited references and the claimed invention as discussed above. Furthermore, the Examiner has not made an explicit analysis on the apparent reason to combine the known elements in the fashion in the claimed invention. Accordingly, there is no apparent reason to combine the teachings of Van Lieshout, Carpenter, and Montague in any combination.

Therefore, Applicant believes that independent claims 1, 10, and 25 and their respective dependent claims are distinguishable over the cited prior art references. Accordingly, Applicant respectfully requests the rejection under 35 U.S.C. §103(a) be withdrawn.

Conclusion

In view of the remarks made above, it is respectfully submitted that pending claims 1-37 are allowable over the prior art of record. Thus, the patentee respectfully submits that all the pending claims are in condition for allowance, and such action is earnestly solicited at the earliest possible date. The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application. To the extent necessary, a petition for an extension of time under 37 C.F.R. is hereby made. Please charge any shortage in fees in connection with the filing of this paper, including extension of time fees, to Deposit Account 02-2666 and please credit any excess fees to such account.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: June 24, 2008

By /William W. Schaal/
William W. Schaal
Reg. No. 39,018
Tel.: (714) 557-3800 (Pacific Coast)

1270 Oakmead Parkway
Sunnyvale, CA 94085-4040